LESSON TITLE: USE TECHNICAL MANUALS (TMs) AND LUBRICATION ORDERS (LOs), AND MAKE ENTRIES ON DA FORM 2404 (EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET)

TASK NUMBER: 551-721-1352 (Perform Vehicle Preventive Maintenance Checks and Services [PMCS])

A. TRAINING OBJECTIVE.

TASK: Use the M939 Series TM/LO and make operator entries on DA Form 2404.

CONDITIONS: Given instruction, TM 9-2320-272-10, LO 9-2320-272-12, DA Form 2404, and a practical exercise.

STANDARD: Locate information in the TM/LO and make the required operator entries on DA Form 2404 in the correct sequence according to DA Pamphlet 738-750. Each student has 15 minutes to complete the practical exercise without error and will be graded on a GO/NO-GO basis.

B. INTERMEDIATE TRAINING.

Intermediate Training Objective 1

TASK: Use the M939 Series TM and LO.

CONDITIONS: Given instruction, TM 9-2320-272-10, LO 9-2320-272-12, and a practical exercise in a classroom environment.

STANDARD: Answer the questions correctly in the practical exercise by locating information in the TM/LO. Each student will be graded on a GO/NO-GO basis.

Intermediate Training Objective 2

TASK: Document a no-fault situation on DA Form 2404.

CONDITIONS: Given instruction, TM 9-2320-272-10, a practical exercise, and DA Form 2404 in a classroom environment.

STANDARD: You must fill out a no-fault situation on DA Form 2404 in the correct sequence according to DA Pamphlet 738-750. Each student will be graded on a GO/NO-GO basis.

Intermediate Training Objective 3

TASK:	Document a fault situation on DA Form 2404.
CONDITIONS:	Given instruction, TM 9-2320-272-10, a practical exercise, and DA Form 2404 in a classroom environment.
STANDARD:	You must fill out a fault situation on DA Form 2404 in the correct sequence according to DA Pamphlet 738-750. Each student will be graded on a GO/NO-GO basis.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Scheduled classroom.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the class and one assistant instructor for every 20 students for the practical exercise.

6. Training aids and equipment: Overhead projector, screen, transparency (DA Forms 2404), TM 9-2320-272-10 (one per student), LO 9-2320-272-12 (one per student), DA Form 2404 (four per student), and a practical exercise situation sheet (one per student).

7. References: DA Pamphlet 738-750, TM 9-2320-272-10, and LO 9-2320-272-12.

D. SEQUENCE OF ACTIVITY.

NOTE: Before class arrival, ensure that each student desk or table has a TM 9-2320-272-10, LO 9-2320-272-12, and two DA Forms 2404. Completed samples of DA Forms 2404 are shown in Figure 4-1, page 4-6 and Figure 4-2, page 4-7. These samples can be used to make transparencies for an overhead projection system or reproduced as student handouts.

1. Introduction:

   a. Interest device.

   b. Tie-in.

   c. Lesson objective (paragraph A).

   d. Procedures:

      (1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

a. Proper technique for using the M939 Series -10 series TM.

(1) Front cover index - corresponding thumb tab blackened pages and table of contents.

(2) Warning summary and caution - warning statements.

(3) PMCS tables.

(4) Alphabetical subject index.

b. Use of the M939 series LO 9-2320-272-12.

(1) Cards (tables).

(2) Warnings, cautions, and notes.

(3) Level of maintenance codes.

(4) Lubricant abbreviations and intervals.

(5) Lubricate after fording and high-pressure washing.

c. DA Form 2404 no-fault situation:

NOTE: If the organization is using ULLS, ULLS generated DA Form 5988-E may be used instead of using DA Form 2404. The blocks of DA Form 5988-E are completed similar to those of DA Form 2404.

(1) Organization.

(2) Nomenclature and model.

(3) Registration/serial number/NSN.

(4) Type of inspection (PMCS).

(5) TM number and TM date.

(6) Date of inspection (column c).

(7) Type of inspection (entered in column d when used for concurrent inspections).

(8) Disposition of DA Form 2404.

d. DA Form 2404 fault situation.

NOTE: If the organization is using ULLS, ULLS generated DA Form 5988-E may be used instead of using DA Form 2404. The blocks of DA Form 5988-E are completed similar to those of DA Form 2404.

(1) Deferred maintenance. Check DA Form 2408-14 for any deferred maintenance before listing faults on DA Form 2404. Do not list faults that are already listed on DA Form 2404 or DA Form 2408-14. (This form is not required when an automated system such as ULLS, provides a list or printout of deferred maintenance and uncorrected faults that includes all elements on the DA Form 2408-14.)

NOTE: Explain to the students that when a DA Form 2404 has previous no-fault daily annotations, a new form does not have to be initiated when a fault is found. Tell them to use the same form and some of the steps listed below would already be completed.

(2) Organization.

(3) Nomenclature and model.

(4) Registration/serial number/NSN.

(5) Miles. If the reading is in kilometers, put the letter "K" before the number.

(6) Hours.

(7) Date.

(8) Type of inspection (PMCS).

(9) TM number and TM date.

(10) Signature and rank in block 8a.

(11) TM item number entered in column a. Circle item number if the fault makes the equipment NMC.

(12) Status symbol entered in column b.

(13) Deficiencies or shortcomings entered in column c.

(14) Disposition of DA Form 2404.

3. Practical exercise: Hand out one practical exercise and two DA Forms 2404 (or if using ULLS, ULLS generated DA Form 5988-E) to each student. Students will complete the practical exercise as outlined in paragraph 2 above within 15 minutes.

4. Evaluate: Check each student's practical exercise.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain and retest NO-GOs after normal duty hours.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1.0 hours (.5 conference and .5 practical exercise).

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET B-308

For use of this form, see DA PAM 738-750 and 738-751; the proponent agency is DCSLOG

1. ORGANIZATION	2. NOMENCLATURE AND MODEL					
B Co, 708th SPT BN	Trk, Cgo, 5-ton, M925A2					
3. REGISTRATION/~~SERIAL/NSN~~	**4a. MILES**	**b. HOURS**	**c. ROUNDS FIRED**	**d. HOT STARTS**	**5. DATE**	**6. TYPE INSPECTION**
NPØ8DC						PMCS

7. APPLICABLE REFERENCE			
TM NUMBER	TM DATE	TM NUMBER	TM DATE
TM9-2320-272-10	Aug 96		

COLUMN a — Enter TM item number.

COLUMN b — Enter the applicable condition status symbol.

COLUMN c — Enter deficiencies and shortcomings.

COLUMN d — Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e — Individual ascertaining completed corrective action initial in this column.

STATUS SYMBOLS

"X"—Indicates a deficiency in the equipment that places it in an inoperable status.

CIRCLED "X"—Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.

HORIZONTAL DASH "(-)"—Indicates that a required inspection, component replacement, maintenance operation check, or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.

DIAGONAL "(/)"—Indicates a materiel defect other than a deficiency which must be corrected to increase efficiency or to make the item completely serviceable.

LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL-Indicates that a completely satisfactory condition exists.

FOR AIRCRAFT-Status symbols will be recorded in red.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

8a. SIGNATURE *(Person (s) performing inspection)*	8b. TIME	9a. SIGNATURE *(Maintenance Supervisor)*	9b. TIME	10. MANHOURS REQUIRED

TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION d	INITIAL WHEN CORRECTED e
		6 Jan 97		C.W.R.
		7 Jan 97		C.W.R.
		8 Jan 97		C.W.R.
		9 Jan 97		C.W.R.
		10 Jan 97	W	C.W.R.

SAMPLE

DA FORM 1 APR 79 2404 Replaces edition of 1 Jan 64, which will be used

Figure 4-1. DA Form 2404 (No Fault Situation)

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see DA PAM 738-750 and 738-751; the proponent agency is DCSLOG

B-128

1. ORGANIZATION	2. NOMENCLATURE AND MODEL
B Co 708th SPT BN	Trk, Cgo, 5-ton, M923A2

3. REGISTRATION/~~SERIAL/NSN~~	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION
NX110AC	2945	206			10 Jan 97	PMCS

7. APPLICABLE REFERENCE

TM NUMBER	TM DATE	TM NUMBER	TM DATE
TM 9-2320-272-10	Aug 96		

COLUMN a — Enter TM item number.

COLUMN b — Enter the applicable condition status symbol.

COLUMN c — Enter deficiencies and shortcomings.

COLUMN d — Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e — Individual ascertaining completed corrective action initial in this column.

STATUS SYMBOLS

"X"—Indicates a deficiency in the equipment that places it in an inoperable status.

CIRCLED "X"—Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.

HORIZONTAL DASH "(-)"—Indicates that a required inspection, component replacement, maintenance operation check, or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.

DIAGONAL "(/)"—Indicates a materiel defect other than a deficiency which must be corrected to increase efficiency or to make the item completely serviceable.

LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL-Indicates that a completely satisfactory condition exists.

FOR AIRCRAFT-Status symbols will be recorded in red.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

8a. SIGNATURE *(Person(s) performing inspection)*	8b. TIME	9a. SIGNATURE *(Maintenance Supervisor)*	9b. TIME	10. MANHOURS REQUIRED
Wylie W. Cooke, PFC				

TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION	INITIAL WHEN CORRECTED e
		8 Jan 97		W.W.C.
		9 Jan 97		W.W.C.
2	/	Passenger windshield		
		cracked		
9	X	Spare tire missing		
14	X	Air dryer moisture		
		ejector valve inoperable		

DA FORM 1 APR 79 2404 Replaces edition of 1 Jan 64, which will be used

Figure 4-2. DA Form 2404 (Fault Situation)

PRACTICAL EXERCISE

LESSON TITLE: USE TECHNICAL MANUALS AND LUBRICATION ORDERS AND MAKE ENTRIES ON DA FORM 2404

NAME_____RANK_____DATE_____

To complete this practical exercise, you will need appropriate vehicle operator's TM, LO, two blank DA Forms 2404 (or ULLS generated DA Form 5988-E), and a pencil. You have 15 minutes to complete this practical exercise.

FIRST REQUIREMENT

Using the appropriate vehicle TM and LO, answer the following questions by writing your answer in the space provided after each question.

1. At what interval does the operator check the transmission for proper operation?

2. Where would you find the definition for the different classes of leaks?

3. In what section of the operator's TM would you find the BII authorized for the M923A2 cargo truck?

4. In what paragraph of the operator's TM would you find instructions for correct braking procedures?

5. What type of gear oil is used for the transfer case?

6. In what publication did you find the answer to question 5 above?

SECOND REQUIREMENT

NAME_____RANK_____DATE_____

From the following information, make the required operator entries on DA Form 2404 (or ULLS generated DA Form 5988-E):

You are assigned to the 58th Transportation Company as the operator of an M923A2 5-ton cargo truck, with registration number 23G9J111.

a. On 13 January 1997, you perform a daily PMCS and find no faults.

b. On 14 January 1997, you perform a daily PMCS and again find no faults.

c. On 15 January 1997, you perform a daily PMCS and your vehicle voltmeter is registering in the red. Your odometer reading is 21,864 miles and your hour meter reads 1546.

d. On 16 January 1997, you perform a daily PMCS and find your voltmeter has been repaired. No other faults are discovered.

e. On 17 January 1997, you perform a weekly PMCS and find no faults.

LESSON TITLE: PREPARE DD FORM 1970 (MOTOR EQUIPMENT UTILIZATION RECORD)

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

TASK: Make correct vehicle operator entries on DD Form 1970.

CONDITIONS: Given instruction, DD Form 1970, pencil, and a practical exercise.

STANDARD: Make the required operator entries on DD Form 1970 in correct sequence according to DA Pamphlet 738-750. Each student has 15 minutes to complete the practical exercise with no errors. Students will be graded on a GO/NO-GO basis.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Classroom.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each 20 students for the practical exercise.

6. Training aids and equipment: Overhead projector, screen, transparencies, practical exercise situation sheet (one per student), and DD Form 1970 (one per student).

7. References: DA Pamphlet 738-750.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

   a. Interest device.

   b. Tie-in.

   c. Lesson objective (paragraph A).

d. Procedures:

(1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

NOTE: Two completed samples of DD Form 1970 are shown in Figure 4-3, page 4-12, and Figure 4-4, page 4-13. These samples can be used to make transparencies for an overhead projection system or reproduced as student handouts.

a. Explain the purpose and use of DD Form 1970. Also explain the dispatcher entries entered on the form.

b. Explain the operator entries that must be entered on DD Form 1970.

3. Practical exercise: Hand out one practical exercise and one DD Form 1970 to each student. Students will complete the practical exercise within 15 minutes.

4. Evaluate: Check each student's practical exercise.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. NO-GOs will be retrained after normal duty hours.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1 hour (.5 conference and .5 practical exercise).

MOTOR EQUIPMENT UTILIZATION RECORD

DATE (YYMMDD) *	TYPE OF EQUIPMENT *	REGISTRATION NO./SERIAL NO. *	ADMINISTRATION NO. *
970121	Trk, Cgo, 5-Ton, M923A2	2C027B10	TRK-105

ORGANIZATION NAME *	ACTION	TIME	MILES	HOURS	FUEL	OIL
123d Transportation Co.						
1ST OPERATOR (Last Name, First, M.I.) *	IN				REPORT TO (Last Name, First, M.I.) *	
Smith, Myron B., PFC	OUT	0730 *	6242 *	395 *	Weaver, Marcus E., SFC	
OPERATOR'S SIGNATURE	TOTAL				DISPATCHER'S SIGNATURE *	
					Jimmy Jones PFC	
2D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
	OUT					
OPERATOR'S SIGNATURE	TOTAL				DISPATCHER'S SIGNATURE	
3D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
	OUT					
OPERATOR'S SIGNATURE	TOTAL				DISPATCHER'S SIGNATURE	
4TH OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
	OUT					
OPERATOR'S SIGNATURE	TOTAL				DISPATCHER'S SIGNATURE	

DESTINATION	TIME ARRIVE	TIME DEPART	RELEASED BY (Signature)	REMARKS
FROM 1.				
TO 2.				
TO 3.				
TO 4.				
TO 5.				
TO 6.				
TO 7.				
TO 8.				
TO 9.				
TO 10.				
TO 11.				
TO 12.				
TO 13.				
TO 14.				
TO 15.				
TO 16.				

SAMPLE

DD FORM 1970

EDITION OF FEB 75 MAY BE USED.

Note: An * denotes dispatcher entries.

Figure 4-3. Sample 1 of DD Form 1970

MOTOR EQUIPMENT UTILIZATION RECORD

DATE (YYMMDD) *	TYPE OF EQUIPMENT *	REGISTRATION NO./SERIAL NO. *	ADMINISTRATION NO. *
970121	Trk, Cgo, 5-Ton, M923A2	2C027B10	TRK-105

ORGANIZATION NAME *	ACTION	TIME	MILES	HOURS	FUEL	OIL
123d Transportation Co.					52 gal	2 qt
1ST OPERATOR (Last Name, First, M.I.) *	IN	1645	6498	402	REPORT TO (Last Name, First, M.I.) *	
Smith, Myron B., PFC	OUT	0730 *	6242 *	395 *	Weaver, Marcus E., SFC	
OPERATOR'S SIGNATURE	TOTAL	9:15	256	7	DISPATCHER'S SIGNATURE *	
Myron B Smith					Tammy Jones, PFC	
2D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
	OUT					
OPERATOR'S SIGNATURE	TOTAL				DISPATCHER'S SIGNATURE	
3D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
	OUT					
OPERATOR'S SIGNATURE	TOTAL				DISPATCHER'S SIGNATURE	
4TH OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
	OUT					
OPERATOR'S SIGNATURE	TOTAL				DISPATCHER'S SIGNATURE	

DESTINATION	TIME ARRIVE	TIME DEPART	RELEASED BY (Signature)	REMARKS
FROM 1. Motor Pool		0815		
TO 2. TA 115	0900	0930		
TO 3. Ft Lee, Bldg 12005	1100	1300		
TO 4. Ft A.P. Hill, Bldg 400	1400	1430		
TO 5. TA115.	1615	1630	M.E. Weaver, SFC	
TO 6. Motor Pool	1645			
TO 7.				
TO 8.				
TO 9.				
TO 10.				
TO 11.				
TO 12.				
TO 13.				
TO 14.				
TO 15.				
TO 16.				

SAMPLE

DD FORM APR 81 1970 EDITION OF FEB 75 MAY BE USED.

Note: An * denotes dispatcher entries.

Figure 4-4. Sample 2 of DD Form 1970

PRACTICAL EXERCISE

LESSON TITLE: PREPARE DD FORM 1970 (MOTOR EQUIPMENT UTILIZATION RECORD)

NAME_____RANK_____DATE_____

To complete this practical exercise, you will need one DD Form 1970 (with dispatcher entries made) and a pen or pencil. You have 15 minutes to complete this practical exercise.

Use the information provided in the situation below to make all required operator entries on DD Form 1970 in the proper sequence and in the prescribed time limit.

1. SITUATION:

a. You left the motor pool in an M923A2, 5-ton cargo truck. Your run included stops at the following areas:

LOCATION	ARRIVED	DEPARTED
Motor Pool	NA	0715
Building 661	0730	0750
Building 705	0800	0830
Training area TA102	0920	1050
Dining facility, Building 663	1120	1230
Training area TA191	1300	1530
Motor pool	1600	

b. The NCOIC was SSG Smith. He released you when you departed TA191 at 1530.

c. When you returned to the motor pool, your odometer reading was 8202 and your hour meter reading was 503. You also noted that you filled the vehicle with 5 gallons of diesel and no oil was added.

2. REQUIREMENT:

a. Complete the attached DD Form 1970.

b. Be sure your entries are legible (other people can read your handwriting) and accurate (the entries agree with the details of the information in the situation).

LESSON TITLE: REPORT AN ACCIDENT (MAKE REQUIRED ENTRIES ON DD FORM 518 AND SF 91)

TASK NUMBER: 551-721-1388 (Complete DD Form 518 and SF 91)

A. TRAINING OBJECTIVE.

TASK: Make required entries on DD Form 518 and SF 91.

CONDITIONS: Given instruction, DD Form 518, SF 91, pencil, and a practical exercise.

STANDARD: Make the required entries on DD Form 518 and SF 91 accurately, legibly, and completely according to FM 21-305. Each student has one hour to complete the practical exercise with no errors. Students will be graded on a GO/NO-GO basis.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Classroom.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each 20 students for the practical exercise.

6. Training aids and equipment: Overhead projector, screen, transparencies, practical exercise situation sheet (one per student), DD Form 518 (one per student), and SF 91 (one per student).

7. References: FM 21-305.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

   a. Interest device.

   b. Tie-in.

   c. Lesson objective (paragraph A).

d. Procedures:

(1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

NOTE: A completed sample of a DD Form 518 is shown in Figure 4-5, page 4-18. A completed sample of SF 91 is shown in Figures 4-6 through 4-9, pages 4-19 through 4-22, and a completed sample of SF 94 is shown in Figures 4-10 and 4-11, pages 4-23 and 4-24. These samples can be used to make transparencies for an overhead projection system or reproduced as student handouts.

a. Precautions and procedures. The following is not necessarily in the correct order. Each accident must be assessed to determine what should be done and in what order.

(1) Stop immediately.

(2) Take precautions to prevent further accidents or injuries by using road guards, highway warning devices, and flares.

(3) Render first aid to the injured.

(4) If fire breaks out, use an extinguisher or sand. Notify the fire department. Take precautions to prevent fire; for example, shut off engines and prohibit smoking.

(5) Notify authorities (civil or military depending on who has jurisdiction) for emergency services (police, ambulance, rescue, or fire fighting).

(6) Follow the rules or regulations of the state or area where accident took place when moving the vehicle from the scene of the accident.

b. Driver's responsibilities.

(1) When involved in an accident, always stop and investigate the accident.

(2) Secure hard-to-get facts first (names and addresses of people involved and witnesses, condition of the road, position of the vehicles, and an estimate of the amount of damage). Ask the witness(es) to complete SF 94.

(3) Be exact. Spell names correctly. Give street addresses by number. State visible damage. Show exactly where vehicles were before and after the accident and what obstacles blocked the driver's view.

(4) Do not sign any paper or make any statement as to who was at fault (except to your supervisor or to a Federal Government investigator).

(5) Be polite. Try to get all the necessary information.

(6) Submit all reports and data to your supervisor ASAP but do not exceed one working day.

c. Instructions for filling out DD Form 518.

(1) Explain the purpose and use of DD Form 518. This form is used to give any persons involved in an accident all of the information that they require from you.

(2) Explain how to fill out this form block by block. Ensure zip codes are included and the students know that disclosure of the social security number is voluntary.

(3) Explain the disposition of the form. Give it to the person directly involved in the accident. Or, if a parked vehicle, place it in or on the parked vehicle in a conspicuous and secure location, such as under the windshield wiper.

d. Instructions for filling out SF 91.

(1) Explain the purpose and use of SF 91. Even though an accident is minor or not your fault, you must report it so that the facts will be clearly presented and so that you can give the names of the witnesses.

(2) Explain how to fill out this form block by block. The driver is responsible for filling out Sections I through IX. Section X, items 72 through 82c are filled out by the driver's supervisor. Sections XI through XIII are filled out by an accident investigator for bodily injury, fatality, and/or damage exceeding $500. No blocks should be left completely blank. If there is no information to put in a certain block, write None, Unknown, or NA.

e. SF 94 may be given to any witness at the scene of the accident. It is normally mailed to the witness by the investigating officer, commander, or supervisor.

3. Practical exercise: Hand out one practical exercise, SF 91, and DD Form 518 to each student. Students will complete the practical exercise within one hour.

4. Evaluate: Check each student's practical exercise.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. NO-GOs will be retrained after normal duty hours.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 2 hours (1.0 conference and 1.0 practical exercise).

ACCIDENT–IDENTIFICATION CARD

(THIS FORM IS SUBJECT TO THE PRIVACY ACT OF 1974–SEE REVERSE)

Any correspondence regarding accident should be addressed to:
Commanding General
FT Eustis, VA 23604-5000

MAKE REFERENCE TO

DATE OF ACCIDENT
17 Jan 97

MAKE AND TYPE OF VEHICLE
M923A2, Trk, CGo, 5Ton

REGISTRATION NO.
2C 111 FX

DRIVER *(Last name–first name–initial)*
Jones, John J

SSN

GRADE
PFC

ORGANIZATION
123d TRANS Co
FT Eustis, VA
23604-5000

DD FORM 1 OCT 78 518 PREVIOUS EDITION IS OBSOLETE.

SAMPLE

PRIVACY ACT STATEMENT

AUTHORITY: Sec 638a, Title 31, USC and EO 9397.

PRINCIPAL PURPOSE: To provide persons involved in an accident with a DoD owned/leased vehicle the identity of the person with the authority to act on the matter.

ROUTINE USES: Placed in each vehicle for purpose stated above. When a DoD vehicle is involved in an accident, the driver provides the other party(s) with a properly executed DD Form 518. The SSN is requested because of similarity of names, to further identify the driver of the DoD vehicle.

DISCLOSURE IS VOLUNTARY. No disciplinary action is taken in cases where the SSN is not provided.

*U.S. Government Printing Office: 1991 — 281-485/40451

Figure 4-5. DD Form 518

MOTOR VEHICLE ACCIDENT REPORT | Please read the Privacy Act Statement on Page 3. | INSTRUCTIONS: Sections I thru IX are filled out by the vehicle operator. Section X, Items 72 thru 82c are filled out by the operator's supervisor. Sections XI thru XIII are filled out by an accident investigator for bodily injury, fatality, and/or damage exceeding $500.

SECTION I - FEDERAL VEHICLE DATA

1. DRIVER'S NAME (Last, first, middle): Jones, John Jim			2. DRIVER'S LICENSE NO./STATE/LIMITATIONS: J-0000/US Army/Glasses			3. DATE OF ACCIDENT: 17 Jan 97
4a. DEPARTMENT/FEDERAL AGENCY PERMANENT OFFICE ADDRESS: US Army/123d Transportation Company, FT Eustis, VA 23604-5000						4b. WORK TELEPHONE NUMBER: (757) 878-0001
5. TAG OR IDENTIFICATION NUMBER: 2C 111FX (Trk-120)	6. EST. REPAIR COST: $2,000	7. YEAR OF VEHICLE: 1986	8. MAKE: Trk, Cgo, 5-Ton	9. MODEL: M923A2	10. SEAT BELTS USED: ☒ YES ☐ NO	
11. DESCRIBE VEHICLE DAMAGE: Right headlight & signal light broke, front bumper bent & torn, right fender crushed,	right front tire cut.					

SECTION II - OTHER VEHICLE DATA *(Use Section VIII if additional space is needed.)*

12. DRIVER'S NAME (Last, first, middle): Smith, Joseph James		13. DRIVER'S LICENSE NUMBER/STATE/LIMITATIONS: 111-11-1110/VA/Daylight only	
14a. DRIVER'S WORK ADDRESS: NA (retired)			14b. WORK TELEPHONE NUMBER: ( ) NA
15a. DRIVER'S HOME ADDRESS: 100 Panther Paw Patch, Gloucester, VA 23061-1114			15b. HOME TELEPHONE NUMBER: (804) 693-0000
16. DESCRIBE VEHICLE DAMAGE: Tailgate, bed, rear bumper & taillights smashed.			17. ESTIMATED REPAIR COST: $ 4,000
18. YEAR OF VEHICLE: 1989	19. MAKE OF VEHICLE: Nissan	20. MODEL OF VEHICLE: Pickup	21. TAG NUMBER AND STATE: 123-ABC/VA
22a. DRIVER'S INSURANCE COMPANY NAME AND ADDRESS: Tidewater Pilecap Mutual Insurance, 123 Hightide Road, Norfolk, VA 24671-1561			22b. POLICY NUMBER: 000-00-123 22c. TELEPHONE NUMBER: (757) 321-0000
23. VEHICLE IS: ☐ CO-OWNED ☐ RENTAL ☐ LEASED ☒ PRIVATELY OWNED	24a. OWNER'S NAME(S) (Last, first, middle): Same as item 12.		24b. TELEPHONE NUMBER: ( ) Same as item 15b.
25. OWNER'S ADDRESS(ES): Same as item 15a.			

SECTION III - KILLED OR INJURED *(Use Section VIII if additional space is needed.)*

A

26. NAME (Last, first, middle): Smith, Joseph James		27. SEX: M	28. DATE OF BIRTH: 17 Jan 27
29. ADDRESS: Same as item 15a.			
30. MARK "X" IN TWO APPROPRIATE BOXES: ☐ KILLED ☒ INJURED / ☒ DRIVER ☐ HELPER / ☐ PASSENGER ☐ PEDESTRIAN	31. IN WHICH VEHICLE: ☐ FED ☒ OTHER (2)	32. LOCATION IN VEHICLE: Behind Steering Wheel	33. FIRST AID GIVEN BY: Mobydick Volunteer Rescue Squad
34. TRANSPORTED BY: Mobydick Volunteer Rescue Squad	35. TRANSPORTED TO: McDonald Army Community Hospital, FT Eustis, VA 23604-5001		

B

36. NAME (Last, first, middle): None		37. SEX	38. DATE OF BIRTH
39. ADDRESS			
40. MARK "X" IN TWO APPROPRIATE BOXES: ☐ KILLED ☐ INJURED / ☐ DRIVER ☐ HELPER / ☐ PASSENGER ☐ PEDESTRIAN	41. IN WHICH VEHICLE: ☐ FED ☐ OTHER (2)	42. LOCATION IN VEHICLE	43. FIRST AID GIVEN BY
44. TRANSPORTED BY	45. TRANSPORTED TO		

46. Pedestrian

a. NAME OF STREET OR HIGHWAY: None	b. DIRECTION OF PEDESTRIAN (SW corner to NE corner, etc.) FROM / TO
c. DESCRIBE WHAT PEDESTRIAN WAS DOING AT TIME OF ACCIDENT (Crossing intersection with signal, against signal, diagonally; in roadway playing, walking, hitchhiking, etc.)	

SAMPLE

NSN 7540-00-634-4041
Previous edition not usable

91-110

STANDARD FORM 91 PAGE 1 (REV. 2-93)
Prescribed by GSA - FPMR 101-38.6

Figure 4-6. SF 91, page 1

SECTION IV - ACCIDENT TIME AND LOCATION *(Use Section VIII if additional space is needed.)*

47. DATE OF ACCIDENT: 17 Jan 97

49. TIME OF ACCIDENT: 0810 (AM / PM)

48. PLACE OF ACCIDENT *(Street address, city, state, ZIP Code; Nearest landmark; Distance nearest intersection; Kind of locality (industrial, business, residential, open country, etc.); Road description).*
200 Block, Highway 101, Newport News, VA, 75 yards southwest of Jones & Jones railway crossing. Locality - residential. Road description - Blacktop, wet from rain.

50. INDICATE ON THIS DIAGRAM HOW THE ACCIDENT HAPPENED

Use one of these outlines to sketch the scene. Write in street or highway names or numbers.

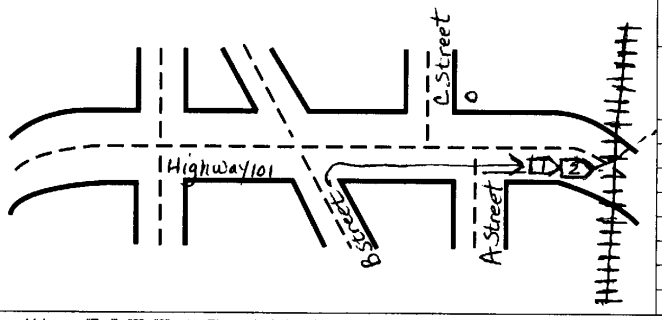
a. *Number Federal vehicle as 1, other vehicle as 2, additional vehicle as 3 and show direction of travel with arrow.* Example: → 1 2 ←

b. Use solid line to show path before accident → 2 and broken line after the accident - - - - - - 2

c. Show pedestrian by →○

d. Show railroad by +++++++++++

e. Place arrow in this circle to indicate *NORTH* ↗



51. POINT OF IMPACT *(Check one for each vehicle)*

	FED	2
a. FRONT		
b. R. FRONT	✓	
c. L. FRONT		
d. REAR		✓
e. R. REAR		
f. L. REAR		
g. R. SIDE		
h. L. SIDE		

52. DESCRIBE WHAT HAPPENED *(Refer to vehicles as "Fed", "2", "3", etc. Please include information on posted speed limit, approximate speed of the vehicles, road conditions, weather conditions, driver visibility, condition of accident vehicles, traffic controls (warning light, stop signal, etc.) condition of light (daylight, dusk, night, dawn, artificial light, etc.), and driver actions (making U-turn, passing, stopped in traffic, etc.).*

I was traveling northeast on highway 101 at approximately 15 MPH, I looked down at an oil can rolling on the floor of my truck. When I looked back up at the roadway, there was a black pickup truck stopped in the roadway. The road was wet causing me to slide into the rear of the pickup.

SECTION V - WITNESS/PASSENGER *(Witness must fill out SF 94, Statement of Witness) (Continue in Section VIII.)*

A

53. NAME *(Last, first, middle)*: White, Sarah Mary
54. WORK TELEPHONE NUMBER: (757) 887-9999
55. HOME TELEPHONE NUMBER: (757) 229-1888
56. BUSINESS ADDRESS: 1216 Oyster Point Rd, Newport News, VA 22164
57. HOME ADDRESS: 8765 York Blvd, Yorktown, VA 12345-0010

B

58. NAME *(Last, first, middle)*: None
59. WORK TELEPHONE NUMBER: ( )
60. HOME TELEPHONE NUMBER: ( )
61. BUSINESS ADDRESS:
62. HOME ADDRESS:

SECTION VI - PROPERTY DAMAGE *(Use Section VIII if additional space is needed.)*

63a. NAME OF OWNER: None
63b. OFFICE TELEPHONE NUMBER: ( )
63c. HOME TELEPHONE NUMBER: ( )
63d. BUSINESS ADDRESS:
63e. HOME ADDRESS:
64a. NAME OF INSURANCE COMPANY:
64b. TELEPHONE NUMBER: ( )
64c. POLICY NUMBER:
65. ITEM DAMAGED:
66. LOCATION OF DAMAGED ITEM:
67. ESTIMATED COST: $

SAMPLE

SECTION VII - POLICE INFORMATION

68a. NAME OF POLICE OFFICER: CPL Betty White
68b. BADGE NUMBER: 1234
68c. TELEPHONE NUMBER: (757) 887-1212
69. PRECINCT OR HEADQUARTERS: Newport News, VA
70a. PERSON CHARGED WITH ACCIDENT: PFC John J. Jones
70b. VIOLATION(S): Inattentive Driving

STANDARD FORM 91 PAGE 2 (REV. 2-93)

Figure 4-7. SF 91, page 2

SECTION VIII - EXTRA DETAILS

SPACE FOR DETAILED ANSWERS. INDICATE SECTION AND ITEM NUMBER FOR EACH ANSWER. IF MORE SPACE IS NEEDED, CONTINUE ITEMS ON PLAIN BOND PAPER.

None

SAMPLE

SECTION IX - FEDERAL DRIVER CERTIFICATION

In compliance with the Privacy Act of 1974, solicitation of the information requested on this form is authorized by Title 40 U.S.C. Section 491. Disclosure of the information by a Federal employee is mandatory as the first step in the Government's investigation of a motor vehicle accident. The principal purposes for using this information is to provide necessary data for legal counsel in legal actions resulting from the accident and to provide accident information/statistics in analyzing accident causes and developing methods of reducing accidents. Routine use of information may be by Federal, State or local governments, or agencies, when relevant to civil, criminal, or regulatory investigations or prosecutions. An employee of a Federal agency who fails to report accurately a motor vehicle accident involving a Federal vehicle or who refuses to cooperate in the investigation of an accident may be subject to administrative sanctions.

I certify that the information on this form *(Sections I thru VIII)* is correct to the best of my knowledge and belief.

71a. NAME AND TITLE OF DRIVER	71b. DRIVER'S SIGNATURE AND DATE
John J. Jones, PFC, Driver	John J. Jones, 17 Jan 97

SECTION X - DETAILS OF TRIP DURING WHICH ACCIDENT OCCURRED

72. ORIGIN	73. DESTINATION

74. EXACT PURPOSE OF TRIP

	DATE	TIME *(Circle one)*		DATE	TIME *(Circle one)*
75. TRIP BEGAN		a.m. p.m.	76. ACCIDENT OCCURRED		a.m. p.m.

77. AUTHORITY FOR THE TRIP WAS GIVEN TO THE OPERATOR
☐ ORALLY ☐ IN WRITING *(Explain)*

78. WAS THERE ANY DEVIATION FROM DIRECT ROUTE
☐ NO ☐ YES *(Explain)*

79. WAS THE TRIP MADE WITHIN ESTABLISHED WORKING HOURS
☐ YES ☐ NO *(Explain)*

80. DID THE OPERATOR, WHILE ENROUTE, ENGAGE IN ANY ACTIVITY OTHER THAN THAT FOR WHICH THE TRIP WAS AUTHORIZED.
☐ NO ☐ YES *(Explain)*

81. COMPLETED BY DRIVER'S SUPERVISOR	a. DID THIS ACCIDENT OCCUR WITHIN THE EMPLOYEE'S SCOPE OF DUTY ☐ YES ☐ NO	b. COMMENTS

82a. NAME AND TITLE OF SUPERVISOR	82b. SUPERVISOR'S SIGNATURE AND DATE	82c. TELEPHONE NUMBER
		( )

STANDARD FORM 91 PAGE 3 (REV. 2–93)

Figure 4-8. SF 91, page 3

SECTION XI - ACCIDENT INVESTIGATION DATA

83. DID THE INVESTIGATION DISCLOSE CONFLICTING INFORMATION. ☐ YES ☐ NO *(If "Yes", explain below.)*

84. PERSONS INTERVIEWED

NAME	DATE	NAME	DATE
a.		c.	
b.		d.	

85. ADDITIONAL COMMENTS *(Indicate section and item number for each comment.)*

SECTION XII - ATTACHMENTS

LIST ALL ATTACHMENTS TO THIS REPORT

SECTION XIII - COMMENTS/APPROVALS

86. REVIEWING OFFICIAL'S COMMENTS

87. ACCIDENT INVESTIGATOR	88. ACCIDENT REVIEWING OFFICIAL
a. SIGNATURE AND DATE	a. SIGNATURE AND DATE
b. NAME *(First, middle, last)*	b. NAME *(First, middle, last)*
c. TITLE	c. TITLE
d. OFFICE	d. OFFICE
e. OFFICE TELEPHONE NUMBER ( )	e. OFFICE TELEPHONE NUMBER ( )

*U.S.GPO:1995-390-660/09125

STANDARD FORM 91 PAGE 4 (REV. 2–93)

Figure 4-9. SF 91, page 4

STATEMENT OF WITNESS (*Attach additional sheets if necessary*)

1. DID YOU SEE THE ACCIDENT? YES

2. WHEN DID THE ACCIDENT HAPPEN? a. TIME 8:15 (a.m.) p.m. b. DATE Jan 17, 1997

FORM APPROVED O.M.B. NUMBER 3090-0118

3. WHERE DID THE ACCIDENT HAPPEN? (*Give street location and city*)
Highway 101 at the Jones & Jones Railway Crossing, Newport News, VA

4. TELL IN YOUR OWN WAY HOW THE ACCIDENT HAPPENED
This pickup truck was approaching the railroad crossing going real slow. This big Army truck just ran into the rear of the pickup truck. He didn't even hit his brakes.

5. WHERE WERE YOU WHEN THE ACCIDENT OCCURRED?
At the side of highway 101, next to C. street.

6. WAS ANYONE INJURED, AND IF SO, EXTENT OF INJURY IF KNOWN?
The man in the pickup had neck or back injuries.

7. DESCRIBE THE APPARENT DAMAGE TO PRIVATE PROPERTY
None

8. DESCRIBE THE APPARENT DAMAGE TO GOVERNMENT PROPERTY
The front bumper and right fender were busted up.

9. IF TRAFFIC CASE, GIVE APPROXIMATE SPEED OF:
a. GOVERNMENT VEHICLE 25 Miles per Hr.
b. OTHER VEHICLE 5-10 Miles per hr.

10. GIVE THE NAMES AND ADDRESSES OF ANY OTHER WITNESSES TO THE ACCIDENT (*If known*)

a. NAMES: None

b. ADDRESSES (*Include ZIP Code*)

WITNESS COMPLETING THIS FORM

11. HOME ADDRESS (*Include ZIP Code*)
8765 York Blvd.
Yorktown, VA 12345-0010

12. WITNESS (Print Name) Sarah M. White
Sign here ► Sarah M. White

a. HOME TELEPHONE NO. 757-229-1888

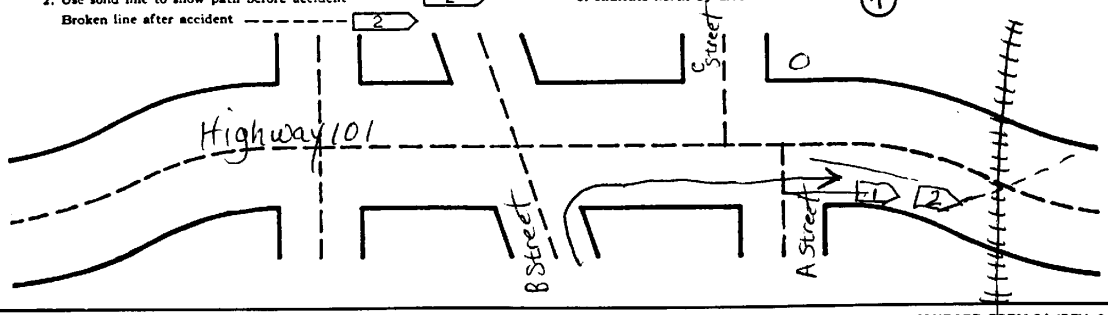
b. TODAY'S DATE 30 Jan 1997

13. BUSINESS ADDRESS (*Include ZIP Code*)
1216 Oyster Point Rd. Newport News, VA 22164

TELEPHONE NO. 757-887-9999

14. INDICATE ON THE DIAGRAM BELOW WHAT HAPPENED:

1. Number Federal vehicle as 1—other vehicle as 2—additional vehicle as 3, and show direction of travel by arrow (*Example:* → 1 2 ←)
2. Use solid line to show path before accident —— 2
Broken line after accident - - - - - - 2
3. Show pedestrian by ——→ O
4. Show railroad by +++++++++++++++
5. Give names or numbers of streets or highways
6. Indicate north by arrow in this circle ↑



NSN 7540-00-634-4045
94-105

STANDARD FORM 94 (REV. 2-83)
Prescribed by GSA, FPMR 101-39.8

Figure 4-10. SF 94, front

FILE REFERENCE:

Ms. Sarah M. White
8765 York Blvd.
Yorktown, VA 12345-0010

This office has been notified that you witnessed an accident which occurred January 17, 1997.

SAMPLE

It will be helpful if you will answer, as fully as possible, the questions on the other side of this letter. Please read the Privacy Act Statement below.

Your courtesy in complying with this request will be appreciated. An addressed envelope, which requires no postage, is enclosed for your convenience in replying.

Sincerely

JOHN P. TENTPIN
CAPTAIN, TC
Commanding

Enclosure

Use by the public is voluntary. In compliance with the Privacy Act of 1974, the following information is provided: Solicitation of the information requested on this form is authorized by Title 40 U.S.C. Section 491. Disclosure of the information by a Federal employee is mandatory as it is the first step in the Government's investigation of a motor vehicle accident. The principal purposes for which the information is intended to be used are to provide necessary data for use by legal counsel in legal actions resulting from the accident, and to provide accident information/statistics for use in analyzing accident causes and developing methods of reducing accidents. Routine use of the information may be by Federal, State or local governments or agencies, when relevant to civil, criminal, or regulatory investigations or prosecution.

*U.S. GPO: 1993-300-892/60175

STANDARD FORM 94 BACK (REV. 2–83)

Figure 4-11. SF 94, back

PRACTICAL EXERCISE

LESSON TITLE: REPORT AN ACCIDENT (MAKE REQUIRED ENTRIES ON DD FORM 518 AND SF 91)

NAME_____RANK_____DATE_____

To complete this practical exercise, you will need one DD Form 518, one SF 91, and a pen or pencil. You have 45 minutes to complete this practical exercise.

1. SITUATION:

On Friday, 17 January 1997 at 0800, you left the motor pool in an M925A2, 5-ton cargo truck (registration number AA101BB) that had been dispatched to you. Your destination was the orderly room, Company A, 225th Infantry Battalion, Fort Walk, NY 09111-5000. You were to report to your first sergeant.

Approximately 10 minutes later, you were driving east on MacArthur Boulevard (a four-lane street) in the right lane at 20 MPH. A civilian vehicle driving north on Pershing Street made a right turn (east) onto MacArthur Boulevard. You applied your brakes but hit the civilian's truck on the left rear fender. The civilian was in the right lane traveling 5 to 10 MPH when you hit him. His truck moved 20 to 30 feet ahead after the collision and stopped by the right curb. Your vehicle also moved another 20 to 30 feet and ended up in the left lane. The weather was clear. The concrete roadway was dry.

You stopped your vehicle, jumped out, and ran to the civilian's vehicle. Luckily, he was not hurt. Since there were no other occupants in either vehicle and no threat of fire or explosion, there was no need to call the fire company or an ambulance. You and the civilian driver exchanged information. You wrote down the following information from his driver's license and registration:

Operator's name:	John P. Jones
Operator's home address:	121 Buffalo Street, Indian, Montana 54321-1000
Operator's state permit number and state:	111-00-1000, Montana
Make of vehicle:	Dodge
Type:	Dakota pickup
Year:	1990
Vehicle license number and state:	123-ABC, Montana
Vehicle owned by:	John P. Jones
Owner's address:	121 Buffalo Street, Indian, Montana 54321-1000

If you have any reason to doubt the information you were given was correct, note it on your form. Record the estimates of damage to each vehicle. You looked at the civilian's truck. His left rear fender was dented, taillight broken, and the tailgate was bent. He estimated the amount of damage at $1,000. Then you looked at your vehicle. Your front bumper was scratched and bent; you approximate the amount of damage at $200.

After estimating the damage, you went to a telephone across the street and called the MP. Within minutes MP officer SPC Joe Smith, Badge Number 321, Company B, 123d MP Battalion, arrived. He recorded comments made by you and the civilian. There were no other witnesses to the accident. The officer did record that there is a traffic light with a turn-on-red signal at the southeast corner of Pershing Street, that your vehicle was equipped with seat belts, and that you were wearing your seat belt at the time of the accident. Since you had recorded the information and given the other driver a copy of DD Form 518, you drove back to the motor pool.

2. REQUIREMENT:

a. Complete the attached DD Form 518 and SF 91.

b. Be sure your entries are legible (other people can read your handwriting) and accurate (the entries agree with the details of the information in the situation). Use your name, rank, social security number, and present age to complete these forms. Your military driver's license number is R-1456. You live in the A Company barracks. The barracks telephone number is 555-9999.

LESSON TITLE: PERFORM OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

TASK NUMBER: 551-721-1352 (Perform Vehicle Preventive Maintenance Checks and Services [PMCS])

A. TRAINING OBJECTIVE.

TASK: Perform operator PMCS on an M939 series cargo truck.

CONDITIONS: Given instruction, DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, and an M939 series cargo truck with BII.

STANDARD: Inspect the vehicle according to the PMCS tables listed in TM 9-2320-272-10, correct all faults within the operator's level of maintenance, and legibly record all others on DA Form 2404 (or ULLS generated DA Form 5988-E). If no faults are found, make necessary entries on DA Form 2404 (or ULLS generated DA Form 5988-E).

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. When training will be given: As scheduled.

2. Training location: Classroom and motor pool as scheduled.

3. Training type: Conference, demonstration, and practical exercise.

4. Who will be trained: Personnel as scheduled.

5. Principal and assistant instructors required: One primary instructor for the class and one assistant instructor for every two students for the demonstration and practical exercise.

6. Training aids and equipment: Television, VCR, TVT 55-16, hearing protection, rags, lubricants, and coolant. DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, and an M939 series cargo truck with BII for every two students.

7. References: AR 385-55, DA Pamphlet 738-750, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

    a. Interest device.

    b. Tie-in.

    c. Lesson objective (paragraph A).

    d. Procedures:

        (1) Explanation.

        (2) Practical exercise.

        (3) Summary.

2. Explanation and demonstration:

    a. Show TVT 55-16.

    b. Demonstrate before, during, after, weekly, and monthly checks to students.

3. Practical exercise:

    a. Assign students to vehicles and issue TM 9-2320-272-10, pencils, DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

    b. Students perform PMCS.

4. Evaluate: Check each student's PMCS performance.

5. Summary:

    a. Recap main points.

    b. Allow for questions.

    c. Clarify questions.

    d. Give closing statement.

6. Retraining: Students perform PMCS daily and have it reinforced throughout the course. PMCS is tested on the EOCCT.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this could result in injury or death.

18. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 2.5 hours (.5 conference, 1.0 demonstration and 1.0 practical exercise). The remaining PMCS is performed throughout the course in conjunction with driving tasks.

LESSON TITLE: IDENTIFY CAB CONTROLS, INSTRUMENTS, AND INDICATORS

TASK NUMBER: 551-721-1352 (Perform Vehicle Preventive Maintenance Checks and Services [PMCS])

A. TRAINING OBJECTIVE.

TASK: Identify cab controls, instruments, and indicators.

CONDITIONS: Given instruction on the M939 series cargo truck and a requirement to identify and explain the functions of cab controls, instruments, and indicators.

STANDARD: Correctly identify and explain the functions of cab controls, instruments, and indicators.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Scheduled motor pool.

3. Training type: Conference.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the class and one assistant instructor for every three students.

6. Training aids and equipment: One M939 series cargo truck for each three students. If the class is large, a PA system may be needed for the primary instructor.

7. References: TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

   a. Interest device.

   b. Tie-in.

   c. Lesson objective (paragraph A).

d. Procedures:

(1) Explanation.

(2) Summary.

NOTE: The instructor will emphasize the importance of safely getting into and out of the cab (maintaining three points of contact), observing all warnings, and using seat belts.

NOTE: At this time, separate the class into groups of three and assign each group to a vehicle. Ensure each group has an assistant instructor. The assistant instructor will identify and demonstrate the use of each item to his group of students as the instructor explains each item.

2. Explanation and demonstration: Location, description, and use of the cab controls, instruments, and indicators.

a. Air cleaner indicator shows red when engine air filter needs servicing.

b. Parking brake warning light illuminates when parking brakes are engaged.

c. Low air pressure warning light illuminates when air brake system pressure drops below 50 to 60 psi.

d. Spring brake warning light illuminates when spring brakes are engaged.

e. Low coolant level light (M939A2 series vehicle) illuminates when engine coolant level is low.

f. Axle lock-in light illuminates when front-wheel drive lock-in switch is engaged.

g. High beam indicator illuminates when front headlights are on high beam.

h. Hand throttle control sets engine speed at desired rpm without maintaining pressure on the accelerator pedal. The throttle control locks in the desired position when pulled out. Rotating the control handle clockwise or counterclockwise unlocks it. The hand throttle is used for engine warm up and so forth. It is NOT to be used as a “cruise control”.

i. Battery switch activates and deactivates all electrical circuits on or off except arctic heater and lights.

j. Ignition switch has off, run, and start positions. Switch automatically returns from start to run when hand pressure is released.

k. Tachometer indicates engine speed in rpm and operating hours in tenths.

l. Speedometer/odometer indicates vehicle speed and total mileage.

m. Engine coolant temperature gauge indicates engine coolant temperature. The normal engine coolant operating temperature for M939/A1 series vehicles is 175 to 195° F and 190 to 200° F for the M939A2 series vehicles.

n. Primary air pressure gauge indicates air pressure in the primary brake system. The normal pressure is 90 to 130 psi.

o. Defroster control opens vents to direct heated air to the windshield.

p. Heat vent control controls the amount of heat blown into the cab by adjusting the opening of the heat ventilation doors.

q. Fresh air vent control pulls out to open ventilation doors. This allows outside air to circulate in the cab.

r. Spring brake release control is pushed in to release spring brakes independently of the mechanical parking brake. The control is used to release spring brakes in order to test and adjust mechanical brakes.

s. Voltmeter indicates the charging condition of the battery.

t. Secondary air pressure gauge indicates air pressure in the secondary brake system. The normal operating pressure is 90 to 130 psi.

u. Transmission oil temperature gauge indicates the temperature of the transmission oil. The normal operating temperature is 120 to 220° F.

v. Engine oil pressure gauge indicates oil pressure when the engine is running. The normal operating pressure at idle is 15 psi.

w. Fuel gauge indicates the fuel level in the fuel tank.

x. Emergency engine stop control is pulled out to cut off fuel to the engine. It is used only in an emergency.

y. Heater blower motor switch activates the heater blower.

z. Wiper motor switches activate wipers and controls windshield wiper speed.

aa. Windshield washer control is pushed in to spray cleaning solution on the windshield.

bb. Turn signal control lever is moved down to operate the vehicle left turn signals, up to operate the right turn signals. The level automatically returns to the off position after the turn is completed. The turn signal control is also equipped with a hazard tab button control (four-way flashers).

cc. Horn button is pressed to operate the vehicle horn.

dd. Front wheel drive lock-in switch allows operator to engage front wheel drive and is used only when the vehicle's transfer case is in high range. In low range, the vehicle's front-wheel drive engages automatically. The vehicle may be in motion or stopped to engage the front-wheel drive lock-in switch.

ee. Light switch controls the operation of the vehicle's lights.

ff. Ether start switch injects ether into the engine for cold weather starting.

gg. Instrument panel lights illuminate instrument panel gauges.

hh. Transmission power take-off control lever (M925/A1/A2 and M928/A1/A2) engages the transmission PTO to provide power for the winch.

ii. Front winch control lever (M925/A1/A2 and M928/A1/A2) is pulled back to wind the front winch and forward to unwind for lowering loads during A-frame operation.

jj. Automatic transmission selector lever is used to select the vehicle driving gear.

kk. Mechanical parking brake control lever is pulled up to engage the parking brakes and down to disengage the brakes. The knob on top of the handle is turned clockwise to increase parking brake tension, counterclockwise to decrease parking brake tension. Applying the parking brake lever also trips a valve to release air pressure from the spring brakes. This engages the spring brakes.

ll. Transfer case shift lever is pushed down to high range for light load operations, up to low range for heavy road operations. Six-wheel drive is achieved automatically when the transfer case shift lever is placed in low range.

mm. Accelerator pedal controls speed.

nn. Brake pedal is depressed to stop or slow the vehicle.

oo. Dimmer switch is depressed to raise or lower the headlight beam.

pp. Cowl ventilator (one on each side of cab) is opened manually to provide fresh air ventilation.

qq. Access door (M939/A1) opens to provide access to the transmission dipstick and oil fill.

rr. Transmission dipstick (M939/A1) is turned counterclockwise to remove and to check transmission oil level.

3. Practical exercise: None.

4. Evaluate: Students are evaluated daily during driving tasks and are tested during the EOCCT.

5. Summary:

    a. Recap main points.

    b. Allow for questions.

    c. Clarify questions.

    d. Give closing statement.

6. Retraining: Training is reinforced during daily driving tasks.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1 hour conference.

LESSON TITLE: OPERATE THE CENTRAL TIRE INFLATION SYSTEM (CTIS) ON AN M939A2 SERIES VEHICLE

TASK NUMBER: 551-721-1391 (Operate a Central Tire Inflation System (CTIS) on the M939A2 Series Vehicle)

A. TRAINING OBJECTIVE.

TASK: Operate the CTIS on the M939A2 series cargo truck.

CONDITIONS: Given instruction on the M939A2 series cargo truck and a requirement to locate the controls and explain the function of CTIS in all four operating modes.

STANDARD: Correctly locate the controls and explain the operation of the CTIS.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.
2. Training location: Motor pool as scheduled.
3. Training type: Conference.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One primary instructor for the class.
6. Training aids and equipment: An M939A2 series cargo truck for the class.
7. References: TM 9-2320-272-10 and STP 55-88M12-SM.

D. SEQUENCE OF ACTIVITY.

1. Introduction:
    a. Interest device.
    b. Tie-in.
    c. Lesson objective (paragraph A).
    d. Procedures:
        (1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

NOTE: The instructor should point out the location of the components and controls as he is explaining each item to the students.

a. Central tire inflation system . The CTIS is designed to work automatically in case of tire leakage. The CTIS will also adjust tire pressure when a road surface selection is made to preset values.

b. CTIS integration with the air brake system. The CTIS uses the same air compressor that supplies air to the vehicle brakes. The vehicle brakes are always given priority over the CTIS. When brake operation causes the air pressure in the air reservoir to fall below a preset limit (90 to 105 psi), inflation will stop until the air compressor has refilled the brake reservoir. If the CTIS was deflating the tires, it would continue to do so.

c. Rapid inflation. The most rapid tire pressure increase is achieved during vehicle operation. Keep the transmission downshifted to a lower gear and maintain engine speed at 2,000 rpm. This engages the turbocharger which supplies extra air directly to the air compressor.

d. Selector panel. The selector panel is part of the ECU and contains selectors for four preset tire pressure modes and a run flat selector. Each selector has its own light. A steady selector light shows that the tire pressure selected has been achieved. A flashing selector light means that the system is working to change tire pressures.

(1) HWY mode. The highway tire pressure selector is the normal operating mode of CTIS. The highway mode is automatically set each time the engine is started. The HWY mode is 60 psi. If a lower tire pressure mode had been selected the last time the truck was operated, the CTIS will automatically begin to inflate to the highway setting.

(2) X-C mode. The cross-country tire pressure selector is used for operating the vehicle on non-paved secondary roads and unimproved surfaces. It allows operation up to 35 MPH. When 35 MPH is exceeded for more than one minute, the amber overspeed warning light on the instrument panel will flash. If 35 MPH is exceeded for more than two minutes, the CTIS will automatically begin to inflate to the HWY pressure. (When driving on secondary roads, the driver must be aware of his speed. If the system does add air to the tires, this smaller footprint can cause traction problems and the driver may lose control of the vehicle. This is especially true of “washboard roads” that cause tires to bounce.)

(3) Sand mode. When the mission requires maximum traction in sand, snow, or mud, select sand on the selector panel. It allows operation up to 20 MPH. When 20 MPH is exceeded for more than one minute, the amber overspeed warning light on the instrument panel will flash. If 20 MPH is exceeded for more than two minutes, CTIS will automatically begin to inflate to the X-C pressure.

CAUTION

Speed must be limited to 10 MPH in the emergency mode to prevent damage to tires.

(4) Emergency mode. When the mission requires maximum traction on extremely adverse terrain, select emergency mode by depressing EMER on the selector panel. The dash mounted amber warning light will illuminate. Operation in emergency mode is limited to 10 minutes, then the system automatically inflates to the sand pressures. If the mission demands extended emergency mode use, select EMER as needed.

(5) Run flat selector. When the mission requires operation with a punctured tire, select run flat by depressing RUN FLAT on the selector panel. Run flat causes CTIS to check tire pressure every 15 seconds. Normally, checks occur every 15 minutes. Repeated damage detection results in repeated inflation attempts. The punctured tire receives a new supply of air each 15 seconds. Operation in run flat is limited to 10 minutes unless reselected. If no longer required, press the run flat selector a second time.

3. Practical exercise: The practical exercise for this lesson is integrated in the driving and off-road driving lessons.

4. Evaluate: Students are evaluated in the driving lessons and tested on the EOCCT.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Training is reinforced during daily driving tasks.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION.

1. Recommended instructional time is .5 hour conference.

2. The following additional M939A2 CTIS tasks are contained in STP 55-88M12-SM:

TASK NUMBER	TASK
551-721-1392	Remove and Remount Tires on Vehicle with Central Tire Inflation System (CTIS)
551-721-1393	Replace Rear Wheel with Spare Tire on the M939A2 Series Vehicle
551-721-1394	Remove the Rear Wheel Valve from the M939A2 Series Vehicle
551-721-1395	Install Rear Wheel Valve on the Spare Tire of an M939A2 Series Vehicle
551-721-1396	Replace Front Wheel with Spare Tire on the M939A2 Series Vehicle
551-721-1397	Remove the Front Wheel Valve from the M939A2 Series Vehicle
551-721-1398	Install Front Wheel Valve on the Spare Tire of a M939A2 Series Vehicle

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

TASK: Drive an M939 series cargo truck.

CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, a suitable driver training area, an M939 series cargo truck with BII, and a requirement to drive the truck; start the vehicle, put the vehicle in motion, read gauges, upshift and downshift the transmission, manipulate the controls, use correct braking procedures, perform basic driving maneuvers to include backing using ground guides, and shut off the engine.

STANDARD: Drive the vehicle correctly and safely without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Classroom, motor pool, and training area as scheduled.

3. Training type: Conference, demonstration, and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference, one assistant instructor for the demonstration, and one assistant instructor for each two students for the practical exercise.

6. Training aids and equipment: Television, VCR, TVT 55-16, TVT 20-1088, rags, lubricants, coolant, and 40 traffic cones or empty POL drums. DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, and an M939 series cargo truck with BII for each two students.

7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

   a. Interest device.

b. Tie-in.

c. Lesson objective (paragraph A).

d. Procedures:

(1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

NOTE: An instructor will be in the cab sitting next to the driver, with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

a. Show TVT 55-16 and TVT 20-1088.

b. Place vehicle in motion:

(1) Perform before-operation PMCS.

WARNING

When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle, or cause injury or death to personnel.

(2) Remove and stow wheel chocks.

(3) Check load, if present, for blocking and bracing and cargo tiedowns for security.

(4) Adjust seat as needed.

(5) Adjust each rear view mirror so back of truck and view of road can be seen.

(6) Adjust and fasten seat belt.

WARNING

Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

(7) Start engine and allow it to warm up.

(8) Check all gauges and instruments. Ensure that they are registering normal readings.

WARNING

Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this could result in injury or death.

(9) Turn on lights as appropriate .

CAUTION

Do not shift the transfer case shift lever from high range to low range, or low range to high range, unless the transmission range selector is in N.

(10) With the transmission range selector in N, select the transfer case driving range:

(a) Depress lockout switch and press transfer case shift lever down to high range for normal driving conditions. (The transfer case may be shifted to high range when the vehicle is stopped or moving at any speed.)

(b) Depress lockout switch and lift transfer case shift lever up to low range if vehicle is heavily loaded, facing a steep grade, and/or operating off road. (The transfer case may be shifted to low range when the vehicle is stopped or moving at speeds of 22 MPH or less.)

(11) Apply the service brake, and move the transmission range selector to the appropriate range as shown in Table 4-1.

Table 4-1. Transmission driving range selection table

Range Selection	Condition	Maximum Operating Speeds w/Transfer Case			
		M939 Series		M939A1 and M939A2 Series	
		In High	In Low	In High	In Low
R (reverse)	Easy grades clear of traffic with ground guide	5 MPH	-	5 MPH	-
N (neutral)		-	-	-	-
1-5 (drive)	Good roads, grades, traffic condition	*50 MPH	22 MPH	*50 MPH	26 MPH
1-4 (fourth)	Moderate grades, traffic restricted speed limits	*43 MPH	17 MPH	*50 MPH	20 MPH
1-3 (third)	Moderate grades, heavy traffic, restricted speed limits	*33 MPH	13 MPH	*38 MPH	16 MPH
1-2 (second)	Steep grades, heavy traffic, rough terrain	*25 MPH	10 MPH	*29 MPH	12 MPH
1 (first)	Starting heavy loads, extreme grades, rough terrain	*12 MPH	5 MPH	*15 MPH	6 MPH

* PRECAUTIONARY NOTE: The following information was extracted from GPM, TACOM No. 96-4:
1. A large number of driving accidents have occurred while operating/driving the M939 series 5-ton trucks. The cause of these accidents are commonly the result of the vehicle operators driving too fast for the conditions and/or locking the wheels when attempting to stop the vehicles.
2. The air brakes of the M939 series truck are very sensitive when the trucks are lightly loaded, empty, or when driving on wet/slippery pavement.
3. The operator must gradually apply the brakes when stopping the vehicle. “Overbraking” will lockup the rear wheels. Locking the wheels may cause the engine to stall which leads to loss of steering. Any of these situations can lead to: loss of vehicle control often resulting in collisons, jackknifing, and/or rollovers.
4. For these reasons the maximum safe operating speeds for the M939 series truck is limited to: highway and secondary roads -- 40 MPH, cross country roads - 35 MPH, sand and snow - 25 MPH, and icy conditions - 12 MPH.
5. A new GPM is expected to be released by TACOM during FY 97.

(12) Release the parking brake by pushing forward to the floor.

(13) Release the service brake pedal and slowly press the accelerator pedal until the vehicle reaches the desired speed.

(14) Accelerate, brake, and steer as required.

WARNING

Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device could result in injury or death.

CAUTION

Do not hold the steering wheel at the full left or right position for longer than 10 seconds. Power steering oil overheating and pump damage can result.

(15) Manually downshift the transmission range selector to match driving conditions.

c. Stop the truck.

(1) Release the accelerator pedal.

(2) Depress the brake pedal.

WARNING

Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

(3) As the vehicle begins to reduce speed, decrease brake pedal pressure.

(4) Stop smoothly by releasing the brake pedal pressure gradually as the stopping rate increases.

(5) After stopping, apply the brake just enough to keep the truck stopped.

d. Backing the truck. Since the driver cannot see directly behind his vehicle, backing is always a dangerous maneuver. Common sense therefore dictates that backing be avoided whenever possible. For example, if the vehicle must be parked, the driver parks so that he will be able to pull forward when leaving. Even though planning ahead can reduce the need to back, almost everyone who drives will have to back on occasion. These four simple rules will help in backing safely:

(1) Inspect your intended path.

(2) Back and turn toward the driver's side.

(3) Use four-way flashers and horn.

(4) Use ground guide(s).

WARNING

Do not back up without a ground guide. Failure to do this may result in damage to vehicle, injury, or death.

WARNING

When backing or going forward, ground guides should never stand directly in the vehicle's path. Keep 10 yards between the vehicle and ground guides at the front or rear and at the corners of the vehicle (never directly behind the vehicle). Ground guides must not position themselves between the vehicle being guided and another object where an inadvertent engine surge or momentary loss of vehicle control could cause injury. The vehicle driver will immediately stop the vehicle if he loses sight of ground guides or notes that the guide is dangerously positioned between the vehicle and another object. In such cases, the vehicle driver will secure his vehicle, dismount, and make an on-the-spot correction before commencing operations.

CAUTION

Do not back up with transfer case shift lever in low range.

e. Park the truck and shut down the engine.

(1) Align the front tires in a straight ahead position.

(2) Apply parking brake by pulling up on parking brake lever.

(3) Move the transmission selector lever to N.

(4) Chock wheels (for proper placement see Figure 4-12). The rear suspension of the M939 series cargo truck is designed to ride over obstacles and can easily roll or be pushed over the chock blocks placed at the intermediate or rear wheels. The front axle suspension on these vehicles is much firmer, therefore the rolling resistance is greatly increased.

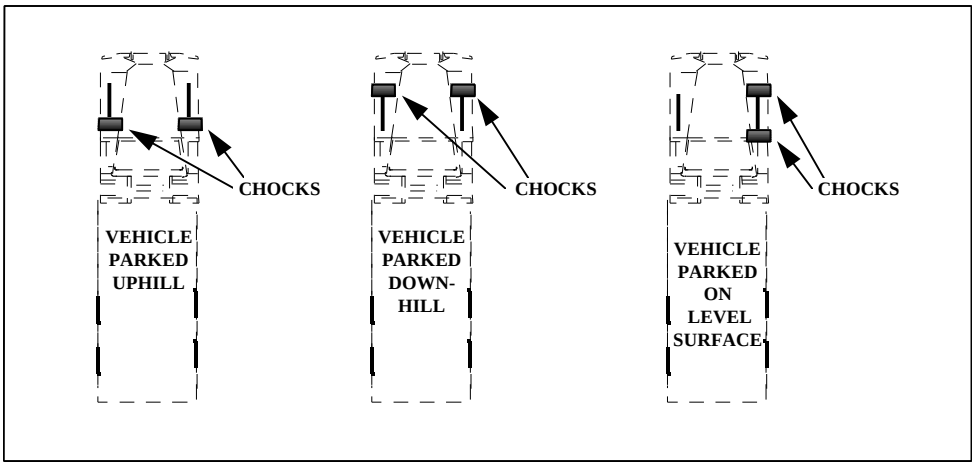


Figure 4-12. Correct chock block placement

(5) Let engine idle for five minutes if engine coolant temperature gauge reads above 195° F.

(6) Turn the vehicle light switch, ignition switch, and battery switch to off. Hold the engine stop switch all the way down until the engine shuts down.

CAUTION

Pull out emergency engine stop control if engine continues to run after ignition and battery switches are in the off position. Do not attempt to restart the M939/M939A1 series vehicle engine until unit maintenance has reset fuel cutoff valve.

(7) Perform after-operation PMCS.

WARNING

When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle, or cause injury or death to personnel.

f. Give safety briefing to include safety restrictions and ground guide precautions for backing the truck.

g. Demonstrate hand and arm signals required for this exercise.

h. Demonstrate driving within the training area.

3. Practical exercise:

a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS.

c. Students practice maneuvering the truck through the courses laid out in the training area(s). Sample training areas are in Chapter 6 (Figures 6-1 through 6-7). During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

d. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and driving.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. This can be accomplished using TVT 55-16. Students perform driving tasks daily and are tested on the EOCCT.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device will result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle, or cause injury or death to personnel.

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 8 hours (.5 conference, .5 demonstration, and 7.0 practical exercise, including 1.0 PMCS).

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK ON THE ROAD

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

TASK: Drive an M939 series cargo truck (empty, partially loaded [2 to 3 tons], and fully loaded) on the road (primary and secondary).

CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, designated driving route (improved surfaced and secondary roads), an M939 series cargo truck with BII, vehicle loads, and a requirement to drive a designated route (to include making right and left turns, making gradual steering corrections, signal intentions in advance, pass oncoming vehicles, maintain vehicle interval, obey highway warning and regulatory signs, operate the lights as required, monitor gauges and indicator lights, upshift/downshift the transmission through all gear ranges, manipulate the controls, and perform basic driving maneuvers to include downhill braking and backing using ground guides).

STANDARD: Operate the vehicle correctly and safely without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Motor pool and driver training route (built up and rural areas) as scheduled.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each two students for the practical exercise.

6. Training aids and equipment: Hearing protection, rags, lubricants, coolant, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, an M939 series cargo truck with BII for each two students, and vehicle loads.

7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

    a. Interest device.

    b. Tie-in.

    c. Lesson objective (paragraph A).

    d. Procedures:

        (1) Explanation.

        (2) Practical exercise.

        (3) Summary.

2. Explanation and demonstration:

NOTE: An instructor will be in the cab sitting next to the driver, with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

NOTE: The students will be required to drive the vehicle fully loaded, partially loaded, and empty. If three vehicles are used, the following arrangement will allow the students to rotate in a round robin fashion:

- One vehicle should be loaded (load should be as close to maximum weight as possible [-5 tons]).
- A second vehicle should be partially loaded (2 to 3 tons).
- The third vehicle should be empty.

NOTE: To prevent loss of cargo or shifting en route, check cargo for blocking/bracing and cargo tiedowns for security before operation and repeatedly during operation.

a. Explain braking precautions. Most likely, this is the first exposure to air brake equipped vehicles for these students. They really need to understand the difference between air brakes and hydraulic brakes. The M939 family carries with it a *known* risk: They have conventional air-brake systems, and the air brakes are very sensitive. Air brakes are unique in that braking force is proportional to pedal travel, but the driver does not experience resistance from the brake pedal. Air brakes do not “feel” like hydraulic brakes. The untrained driver, or even the cross-trained one, may respond to this lack of resistance by applying too much force to the brake pedal. This causes the brakes to lock up and the vehicle to become uncontrollable. All drivers of these trucks must be thoroughly trained in operating tactical trucks with air brakes. A warning is printed in the technical manual. This warning can also be considered a control: *Apply* brakes *gradually when stopping.* Panic stops

will cause vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually may result in injury or death.

WARNING

Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

WARNING

Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

b. Explain procedures for hill climbing.

(1) The engine works hardest when moving a loaded vehicle up a grade. Proper use of gear ranges will shorten the time on hills.

(2) Unless the hill is extreme, begin in gear range 1-5 (drive), and depress the accelerator pedal all the way downward. Keep it there as the vehicle moves up the grade. Remain in this gear range and allow the transmission to upshift and downshift automatically. If the transmission is constantly changing gears, then downshift one selection at a time, such as 1-4, then 1-3.

(3) As you progress up the hill count the number of downshifts.

NOTE: The automatic transmission is equipped with a lockup clutch which automatically engages after the load is rolling and torque demand is low. This provides increased fuel economy at highway cruising speeds. It automatically releases at lower vehicle speeds. Lockup engagement, like range shifts, may be felt under some conditions and you may hear a slight change in engine sound as rpm drop. A little driving experience will enable you to tell the difference between gear range changes and lockup engagement or disengagement.

(4) When you reach the top of the hill, manually downshift the transmission to the gear that the transmission is in (this was the reason for counting the number of downshifts). This is normally the gear the truck should be in to descend the other side of the hill.

CAUTION

Do not accelerate at full power when downshifting or upshifting to and from forward driving range 1 (first).

CAUTION

Do not allow the M939 series vehicles to exceed 5 MPH or M939A1/A2 series vehicles to exceed 6 MPH when transfer case is in low and the transmission is in 1 (first). Failure to do so will result in damage to internal engine components.

(5) For starting on maximum grades with maximum load (such as vehicle fully loaded), stop the vehicle and shift the transmission to N and the transfer to low. Start in transmission gear range 1 or 1-2, depress the accelerator pedal to the floor, and manually upshift the transmission selector lever one range at a time, shifting when engine speed approaches 2,000 rpm.

CAUTION

Do not allow engine speed to exceed 2,100 rpm in any transmission gear ratio.

c. Explain procedures for downhill driving.

(1) Select a "safe" speed that is not too fast for the following:

- Total weight of the vehicle and cargo.
- Length of the grade.
- Steepness of the grade.
- Road conditions.
- Weather.

(2) Manually downshift the transmission into a lower gear before starting downgrade. (The general rule is to use the same gear to descend the grade that would be needed to climb the grade.)

(3) Check brakes before starting the downgrade.

(4) Pay attention to signs indicating the location of escape ramps.

CAUTION

Do not allow engine speed to exceed 2,100 rpm in any transmission gear ratio.

(5) When vehicle speed reaches the maximum "safe" speed, apply the brakes just hard enough to feel a definite slowdown.

(6) When the vehicle speed has been reduced to approximately 5 MPH below the "safe" speed, release the brakes. (This brake application should last for about 3 seconds.)

NOTE: New drivers generally have two problems with air brake systems on down grades:

- They try to maintain a constant speed down hill by dragging the brakes. This glazes the brakes and they become completely ineffective.
- They drain the air system by continually pumping the brakes.

(7) When vehicle speed has increased to the "safe" speed, repeat steps (5) and (6).

(8) If braking power diminishes, pull off to the side of the road and allow the brakes to cool.

CAUTION

Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

d. Explain following distances.

(1) Maintain one second for each ten feet of vehicle length (40 MPH and less). (The M923A2 is 40.8 feet long [other models vary], so at speeds of up to 40 MPH, allow four seconds following distance.)

(2) Increase by one second for speeds over 40 MPH. At 45 MPH, with the M923A2, allow five seconds following distance.

(3) Increase by several seconds for rain, fog, and winter conditions.

e. Explain driving in adverse weather conditions. Two major hazards associated in driving during adverse weather conditions are reduced visibility and reduced traction.

(1) Countermeasures for driving during periods of reduced visibility:

(a) Travel at reduced speeds and be prepared to meet sudden changes in road conditions.

(b) Do not use high beams. Switch to low beams if high beams are on.

(c) Look to the right if blinded by oncoming vehicles.

(d) Do not overrun the headlights and stay twice the normal distance from the vehicle ahead.

(e) Give turn signals sooner.

(f) Apply brakes sooner and press brake pedal lightly to give early warning that vehicle will slow or stop.

(g) Use defrosters and wipers to help keep the windshield clear.

(h) Keep windshield, windows, mirrors, headlights, brake lights, reflectors, and area around air cleaner intake free of snow and ice. Snow and ice may melt, refreeze, and cause restriction in the air intake system.

(i) Watch for pedestrians and vehicles pulled over to the side of the road.

(j) Use caution when weather reduces visibility to near zero. This is particularly true at night, in heavy snow, in a downpour of rain, or dense fog. When this happens, it is unsafe to drive.

- Exit the highway, stop, and wait until visibility improves before continuing.
- Do not stop on the shoulder with flashers on. Stopping on shoulders may induce a rear end collision/chain reaction.

(2) Reduced traction countermeasures:

CAUTION

Attempting operation of the M939 series cargo truck with only one drive wheel equipped with tire chain may result in damage to tire and/or power train.

(a) Install tire chains, if needed, for snow or ice. Use tire chains on the intermediate axle tires only. For M939 series vehicles, place chains on outside tires. Remove as soon as mission allows. For M939A2 series vehicles, select the sand setting on the CTIS selector panel. (Tire chains are authorized for use on the M939A2 series vehicles, however chains could cause damage to CTIS components.)

WARNING

Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

(b) Pump the brakes gradually when stopping the vehicle on snow and ice (pumping air brake vehicles may be dangerous, do not pump the brakes more than three to four times and allow the air pressure to build back up before reapplying the brakes). Sudden braking will cause wheels to lock and vehicle to slide out of control.

(c) Place the transmission shift lever and the transfer case shift lever in the appropriate driving range to descend or climb steep hills.

(d) Place the vehicle in motion slowly to prevent wheels from spinning.

(e) Press the accelerator pedal slowly when changing speed.

(f) Keep the accelerator pedal steady after vehicle reaches the desired speed.

(g) Turn the vehicle slowly and make gradual steering adjustments when on slippery surfaces.

(h) Steer the vehicle away from ruts and large snow banks.

(i) Steer the vehicle straight up and down hills if possible.

(j) Check for black ice. Black ice is clear and cannot be seen because the road surface is visible through the ice. The ice becomes invisible to the driver. Black ice usually occurs on bridges, beneath underpasses, in dips in the road, in shaded areas, and on lower sides of banked curves.

- When driving in rain or near freezing temperatures, feel for ice along the front of a mirror. If ice is there it may be on the road surface as well.
- When in doubt, test surface traction by first checking to see that nothing is following your vehicle, then slow down and apply the brakes gently to see if the vehicle skids.

(k) Sudden changes in speed or direction result from over acceleration, over braking, and over steering. These changes result in skidding and jackknifing. Use the following procedures if the vehicle's rear skids:

- Let up on the accelerator pedal.
- Steer in the same direction in which the rear of the vehicle is skidding.
- When vehicle is under control, press the brake pedal lightly.
- Steer vehicle on a straight course and slowly press the accelerator pedal.

(l) Do the following if the vehicle starts to slide while climbing a hill:

- Let up on the accelerator pedal.
- Steer the vehicle in the direction of the slide until the vehicle stops sliding.
- Slowly press the accelerator pedal and steer the vehicle on a straight course.

(m) The best advice in regard to a stuck vehicle is to avoid getting stuck. However, do the following if the vehicle does get stuck:

- Shovel clear path ahead of each wheel. Put boards, brush, sand, gravel, or similar material in cleared paths to get better traction.
- If the vehicle is equipped with CTIS (M939A2 series), lower the tire pressure to the emergency setting.
- If additional power is needed to extract vehicle when mired in snow, place transmission in 1 (first gear range) and transfer case in low range. Do not rock the vehicle or spin the wheels.
- If vehicle remains stuck, use wrecker or another vehicle equipped with winch to tow or winch the stuck vehicle.
- If vehicle is equipped with a self recovery winch, it may be used to help free the vehicle.

(n) Drive slowly and test brakes after driving through slush or water. If brakes slip do the following:

- Continue to drive slowly.
- Apply moderate pressure on brake pedal to cause slight brake drag.
- When brakes are dry and they no longer slip and uneven braking ceases, let up on the brake pedal.
- Resume normal driving speed.

(o) When driving during hot weather, adjust your driving for bleeding tar conditions on the roadway. Do the following to drive under these conditions:

- Frequently scan the roadway ahead.
- Identify a black tar area ahead.
- Maintain steady speed.
- Make no sudden steering maneuvers.
- Make no sudden braking maneuvers.
- If braking is required, ensure all wheels are on a similar surface.

f. Explain driving on secondary roads.

(1) When driving CTIS equipped vehicles, select the X-C setting on the CTIS selector panel. Speed in this mode is limited to 35 MPH. If this speed is exceeded for more than two minutes, CTIS will automatically inflate the tires to the highway setting. At the highway setting, this smaller footprint can cause traction problems and the driver may lose control of the vehicle.

(2) Do not drive in dust clouds created by other vehicles. Maintain a longer following distance when traveling on dusty roads. Establish procedures to warn approaching vehicles (driving in dust and other restricted visibility conditions) of vehicles that are stopped or broken down.

(3) Drive slowly on secondary roads. All models of the M939 series trucks have been known to lose traction on secondary roads, especially when the vehicles are empty or lightly loaded. This is because the rear wheels tend to bounce on the rough road.

(4) Travel on the solid part of the roadway and stay away from the edge of soft shouldered roads. Edges of trails and secondary roads have been known to give way, causing the vehicle to roll on its side.

g. Give safety briefing to include safety restrictions and ground guide precautions for backing the truck.

3. Practical exercise:

a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS.

c. Students practice driving the truck on the road (primary and secondary). During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

d. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and driving.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. Students perform driving tasks daily and are tested on the EOCCT.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device will result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

24. Ensure a safe following distance and speed are maintained when driving on the designated route (as determined by the local command).

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 16 hours (1.0 conference and 15.0 practical exercise, including 3.0 PMCS).

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK OFF ROAD

TASK NUMBER: 551-721-1360 (Drive Cargo Vehicle on Side Roads and Unimproved Roads)

A. TRAINING OBJECTIVE.

TASK: Drive an M939 series cargo truck (empty, partially loaded [2 to 3 tons], and fully loaded) off road.

CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, designated driving route (improved surfaced and secondary roads), an M939 series cargo truck with BII, vehicle loads, and a requirement to operate the vehicle off road (to include streams, ravines, gullies, ditches, wooded areas, rocky terrain, swamps, and mud).

STANDARD: Operate the vehicle safely at reduced speeds and over rough terrain without injury to personnel or damage to the vehicle.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Motor pool and off road driver training area as scheduled. A classroom is required if optional videotape is shown.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each two students for the practical exercise.

6. Training aids and equipment: Hearing protection, rags, lubricants, coolant, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, an M939 series cargo truck with BII for each two students, and vehicle loads. Television, VCR, and TVT 55-16 are required if the videotape is reshown to the students.

7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

    a. Interest device.

    b. Tie-in.

    c. Lesson objective (paragraph A).

    d. Procedures:

        (1) Explanation.

        (2) Practical exercise.

        (3) Summary.

2. Explanation and demonstration:

NOTE: An instructor will be in the cab sitting next to the driver, with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

NOTE: The students will be required to drive the vehicle fully loaded, partially loaded, and empty. If three vehicles are used, the following arrangement will allow the students to rotate in a round robin fashion:

- One vehicle should be loaded (load should be as close to maximum weight as possible [-5 tons]).
- A second vehicle should be partially loaded (2 to 3 tons).
- The third vehicle should be empty.

NOTE: To prevent loss of cargo or shifting en route, check cargo for blocking/bracing and cargo tiedowns for security before operation and repeatedly during operation.

a. As an option, show TVT 55-16, to reinforce driving tasks. This step may be deleted because the students should have viewed this TVT in earlier lessons.

b. General off road driving procedures:

(1) For starting with heavy loads, extreme grades, and in rough terrain, with the transfer case shift lever in high, and the transmission selector lever in 1 (first), limit speed to 12 MPH (15 MPH for the M939A1 and A2 models). If the transfer case shift lever is in low and the transmission selector lever is in 1 (first), limit speed to 5 MPH (6 MPH for the M939A1 and A2 models).

(2) For steep grades, heavy traffic, and rough terrain, with the transfer case shift lever in high and the transmission selector lever in 1-2 (second), limit speed to 25 MPH (29 MPH for the M939A1 and A2 models). If the transfer case shift lever is in low and the transmission selector lever is in 1-2 (second), limit speed to 10 MPH (12 MPH for the M939A1 and A2 models).

(3) When operating M939A2 series vehicles cross country, pre-select the X-C mode on the CTIS selector panel. When the mission requires maximum traction in sand, snow, or mud, select sand on the selector panel. When the mission requires maximum traction in extremely adverse terrain, select emergency on the selector panel.

(4) When operating vehicle without CTIS (M939 and A1 series vehicles) off the road in heavy rain, deflate tires to 25 psi. Inflate tires immediately to the correct pressure when operation changes to paved roads.

c. Shallow ditches require the following maneuvers:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Place the transfer case shift lever in high.

(4) Engage front wheel drive lock-in switch.

(5) Place the transmission shift lever in 1 or 1-2.

(6) Steer the vehicle toward the ditch so that one wheel on the axle will leave the ditch as the other wheel on the same axle enters it.

d. Deep ditches require the following driving techniques:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Cut away sides of the ditch, if necessary.

(4) Place the transfer case shift lever in low (low range automatically engages 6X6 drive).

(5) Place the transmission shift lever in 1 or 1-2.

(6) Approach the ditch at an angle.

(7) Accelerate the vehicle enough to keep it rolling as it goes up the other side.

e. Gullies and ravines require the following maneuvers:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Place the transfer case shift lever in low (low range automatically engages 6X6 drive).

(4) Place the transmission shift lever in 1 or 1-2.

(5) Ease the front wheels over the edge into the ravine.

(6) Steer a straight course so that both front wheels strike the bottom at the same time.

(7) Accelerate enough so that the vehicle can climb up the opposite bank.

f. Wooded area driving techniques include the following:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Remove tarps and bows as necessary.

(4) Place the transfer case shift lever in high.

(5) If needed, engage front wheel drive lock-in switch.

(6) Place the transmission shift lever in 1 or 1-2.

(7) Maneuver around obstacles.

(8) Center larger saplings on the vehicle bumper.

g. Rocky terrain requires the following driving techniques:

(1) Stop the vehicle. CTIS should be set to the X-C mode. Any lower tire pressure can cause breaks in the tires as large rocks force the tire to contact the rim.

(2) Check the terrain for obstacles.

(3) Drive slowly choosing route while advancing. Drivers should achieve a “rolling” effect as they cross large rocks by braking as the vehicle’s wheels ride over a rock so the axle settles relatively gently on the far side.

(4) Remove stones as often as possible from between dual tires (M939 series vehicles only).

h. Fording shallow streams (30 inches or less) calls for these handling techniques:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Check the stream for depth and firm support.

(4) Tighten fuel tank cap.

(5) Secure all loose objects on vehicle.

(6) Make sure battery caps are all installed and tight. Make sure transmission dipstick is secured.

(7) Start engine. Make sure engine is running properly.

(8) Pull the transfer case shift lever up to low range and place the transmission selector lever in 1 (first).

WARNING

Do not attempt to cross water deeper than 30 inches. Limit vehicle speed while fording to 3 or 4 MPH. Failure to do this could result in damage to the vehicle or injury or death to personnel.

(9) Enter water slowly at a gentle sloping area.

(10) Maintain a constant vehicle speed while fording, and exit water in an area with a gentle slope. Unless absolutely necessary, do not stop while in the water.

(11) If vehicle accidentally enters water deeper than 30 inches, do the following:

- Apply brake pedal and hold to stop vehicle.
- Shift transmission to N and transfer case to high range.
- Move the transmission shift lever to R.
- Let up on the brake pedal and slowly back vehicle out of the water.

WARNING

Do not rely on service brakes until they dry out. Keep applying brakes until uneven braking ceases. Failure to do this could result in injury or death.

(12) After leaving the water, apply the brake pedal lightly and hold while driving slowly to dry out brake linings.

(13) When clear of the fording area, stop the vehicle, apply and release the parking brakes several times to remove water from brake components.

(14) Wash all parts of vehicle with fresh water as soon as possible and have it serviced by organizational maintenance.

i. Mud and swamps require the following driving techniques:

(1) Stop the vehicle.

(2) Place the transfer case shift lever in low (low range automatically engages 6X6 drive).

(3) Place the transmission shift lever in 1-5.

(4) Place vehicle in motion slowly without causing wheels to spin or engine to race.

(5) Place transfer case shift lever in high range when vehicle is under way. If necessary, engage front wheel dive lock-in switch.

j. Clean mud from wheels, brakes, axles, universal joints, steering mechanism, and radiator as soon as possible. Make sure the axle breather vent caps move freely on breather body.

k. Give safety briefing, to include reinforcing ground guide safety procedures for backing the vehicle.

3. Practical exercise:

a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS.

c. Students practice driving the truck off road. During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

d. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and off road driving.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. Students perform driving tasks daily and are tested on the EOCCT.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device could result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

24. Do not rely on service brakes until they dry out. Keep applying brakes until uneven braking ceases. Failure to do this could result in injury or death.

25. Ensure a safe following distance and speed are maintained when driving on the designated route (as determined by the local command).

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 6 hours (.5 conference and 5.5 practical exercise, including 1.0 PMCS).

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK AT NIGHT

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

TASK: Drive an M939 series cargo truck at night.

CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, designated driving route (improved surfaced and secondary roads), an M939 series cargo truck with BII, and a requirement to drive a designated route at night with headlights using defensive driving (accident avoidance) methods; operate the lights, monitor gauges and indicator lights, manipulate the controls, and perform basic driving maneuvers to include downhill braking and backing using ground guides.

STANDARD: Operate the vehicle correctly and safely without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Motor pool and driver training route (built up and rural areas) as scheduled.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each two students for the practical exercise.

6. Training aids and equipment: Rags, lubricants, coolant, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, and an M939 series cargo truck with BII for each two students.

7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

    a. Interest device.

    b. Tie-in.

    c. Lesson objective (paragraph A).

    d. Procedures:

        (1) Explanation.

        (2) Practical exercise.

        (3) Summary.

2. Explanation and demonstration:

NOTE: An instructor will be in the cab, sitting next to the driver with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

a. Night driving factors.

(1) Driver factors:

(a) Vision. The driver has limited vision at night because of the following:

- Eyes need time to adjust to the change between light and darkness.
- Drivers cannot see as sharply at night.
- Drivers cannot see to the sides as well at night.

(b) Glare. Temporary blindness is caused by glare, normally from oncoming headlights but sometimes from other lights.

(c) Fatigue. Reduces the ability to see clearly. The driver becomes less alert, slower to see hazards, and does not react as promptly.

(d) Driver inexperience. Newness to driving, coupled with the problems of reduced vision, glare, and fatigue account for the fact new drivers have higher nighttime accident rates than more experienced drivers.

(2) Roadway factors:

(a) Low illumination. Illumination provided by street lights is often only fair to poor. On most roads, the only illumination is from the driver's headlights. Headlights are useful for a relatively short and narrow path directly ahead of the vehicle. Headlights do not bend around corners.

(b) Variation in illumination. The driver must constantly adjust his eyes to different types and degrees of lighting. Flashing lights distract as much as they illuminate. Traffic signs are hard to see against the background of other lights especially in towns and cities.

(c) Familiarity with roads. The driver needs to be particularly alert on roads that he has never driven during the day. On familiar roads, drivers tend to be overconfident. This is dangerous because of the following:

- The view of the roadway is not the same.
- Situations on some stretches will change.

(d) Other road users. The driver must adjust his driving to hazards such as pedestrians, joggers, bicyclists, and animals.

(e) Drinking drivers. The likelihood of encountering drunken drivers increases after sundown. Be especially alert when driving near roadside taverns and similar attractions.

(3) Vehicle factors:

(a) Headlights. Sight distance is limited to the range of the headlights. Therefore, the driver must drive at a speed that allows him to stop within his sight distance.

(b) Auxiliary lights. Trucks are better seen at night by other drivers when reflectors, marker lights, clearance lights, tail lights, and brake lights are clean and working properly.

(c) Turn signals. The ability to communicate with other drivers depends on turn signals. Nonfunctional or dirty turn signal lights greatly increase the risk of an accident.

(d) Windshield and wipers. A clean windshield and properly working wipers are a must for safe driving.

(e) Mirrors. Mirrors help the driver see what is going on around him. Keep them clean and properly adjusted.

b. Night driving procedures.

(1) Preparing to drive at night:

(a) Getting yourself ready.

- If you wear glasses, be sure they are clean.
- Remove sunglasses.
- Be well rested.

(b) Plan your route.

- Know the location of rest stops.
- Plan for hazards such as unlighted areas, exit ramps, construction areas, and other changes in the highway environment.

(c) Getting the vehicle ready.

- Ensure windshield, mirrors, lights, and reflectors are clean.
- Ensure all lights are operational.

(2) Driving at night:

(a) Avoid blinding others.

- Dim high beams when oncoming vehicles are less than 500 feet away.
- Do not use high beams to retaliate against other drivers.

(b) Avoid glare.

- Set interior panel lights at the lowest setting to reduce glare.
- Look to the right when oncoming vehicles are using high beams.

(c) Maximize visibility.

- Use low beams when desired visual range is about 250 feet.
- Use high beams when there are no oncoming vehicles and desired visual range is 350 to 500 feet.

(d) Adjust basic driving techniques.

- Exercise additional caution because of reduced vision.
- Signal earlier than you would during daylight to give other drivers more time to react.

3. Practical exercise:

a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS to include the operation and cleanliness of all lights.

c. Give safety briefing with emphasis on safety precautions for night operations.

d. Students drive the designated route. During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

e. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and night driving.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device will result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

24. Ensure a safe following distance and speed are maintained when driving on the designated route (as determined by the local command).

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 5 hours (.5 conference and 4.5 hours practical exercise, including 1.0 PMCS).